22-AA-0001

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 5-00-090

WASTE DISCHARGE REQUIREMENTS
FOR
THE COUNTY OF MARIPOSA
FOR
OPERATION
MARIPOSA COUNTY MUNICIPAL SOLID WASTE LANDFILL
MARIPOSA COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. The County of Mariposa (hereafter Discharger) owns and operates a municipal solid waste landfill approximately 2.5 miles northwest of the city of Mariposa in Section 16, T5S, R18E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order.

2. The 40-acre facility contains one existing unlined waste management unit covering 26.0 acres, as shown in Attachment B, which is incorporated herein and made part of this Order. The facility is comprised of Assessor's Parcel Number (APN) 012-120-005-0.

3. On 25 January 1991, the Board adopted Order No. 91-018, which prescribes waste discharge requirements for the facility. Order No. 91-018 classified the waste management unit as a Class III landfill that accepts municipal solid waste in accordance with then-existing Title 23, California Code of Regulations, §2510, et seq. (Chapter 15).

4. On 17 September 1993, the Board adopted Order No. 93-200, amending Order No. 91-018 and implementing State Water Resources Control Board Resolution No. 93-62, Policy for Regulation of Discharges of Municipal Solid Waste.

5. This Order updates the waste discharge requirements for the facility in conformance with the California Water Code and Title 27, CCR, §20005 et seq. (Title 27) and the revisions and policies adopted thereunder; for the removal of the facility from Attachment 1 of Order No. 93-200; and for the operation of the facility.

6. The existing waste management unit receives approximately 80 cubic yards per day of municipal solid waste with an anticipated remaining capacity of 2,000,000 cubic yards. Remaining total site life is estimated at 65 years.

SITE DESCRIPTION

7. The facility is in a small canyon between northwest trending Mount Bullion Ridge and a smaller northwest trending ridge immediately south of the site. The site slopes moderately to the southwest with elevations ranging from 2,290 to 2,500 feet above mean sea level.

8. The site consists of 25 to 50 percent bedrock outcrop and is underlain mainly by serpentinite. The serpentinite occurs as hard resistant blocky masses and highly sheared and fractured nonresistant masses. Fractures and joints primarily trend N47° W to N64° W and dip 65° to 86° NE. Soils include the Hannecke Series which are typically less than 4 feet thick and localized.

9. The facility is within the Melones fault zone, which is not well defined and for which recorded seismic events are rare. No Holocene faults are known to exist beneath the facility. The Maximum Probable Earthquake (MPE) for the Melones Fault Zone is a magnitude 5.7 event, with an estimated maximum ground acceleration of 0.55 g at the site. The Discharger is obligated to operate and maintain facility containment structures in such a way to withstand ground accelerations associated with the MPE, in accordance with §20260(d) of Title 27.

10. Land within 1,000 feet of the facility is used for agricultural (cattle grazing), residential, and industrial activities as indicated in the County General Plan land use categories MT (Mountain Transition) and MG (Mountain General). Nearby properties include a SPCA center for animals, a PG&E substation, a construction fill material supply facility, and a single-family residential development north of Highway 49.

11. The facility receives an average of 28 inches of precipitation per year as shown by the isohyetal map in California Department of Water Resources Bulletin 131 (1965). The mean pan evaporation is 74.5 inches per year as measured at the Catheys Valley Bull Run Ranch Weather Station 5 miles southwest of the site during 1966 through 1979.

12. The 100-year, 24-hour precipitation event for the facility is estimated to be 6.93 inches, as determined from the Precipitation Depth-Duration-Frequency Table for the Mariposa Station. The Mariposa Station is 2.5 miles southwest of the facility and has a precipitation record from 1930 through 1970, 1978, and 1979.

13. The facility is not within a 100-year floodplain based on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map, Community-Panel Number 06043C0245B.

14. There are approximately 19 domestic wells and two industrial supply wells within a one-mile radius of the site. These wells range in total depth from 120 to 500 feet and are mainly within the residential area north-northwest of the site. An ephemeral surface spring driven by snowmelt has been observed near the toe of the southeastern slope of Module 1.

SURFACE AND GROUND WATER CONDITIONS

15. The Board adopted the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan) which designates beneficial uses and contains water quality objectives for all waters of the Basin. This order implements the Basin Plan.

16. Surface drainage is toward two on-site intermittent drainages which are tributaries of Agua Fria Creek in the Mariposa Hydrologic Area (538.00) of the San Joaquin Basin. Agua Fria Creek flows to Mariposa Creek which enters Mariposa Reservoir 12 miles southwest of the site.

17. The designated beneficial uses of these surface waters include municipal and domestic supply, hydropower generation, contact and noncontact water recreation, warm fresh water habitat, preservation of rare, threatened and endangered species, and groundwater recharge.

18. Groundwater flow is fracture controlled in serpentinite bedrock, locally confined, and first encountered at depths ranging from 21 to 65 feet below ground surface. Water levels in monitoring wells stabilized 10 to 30 feet higher than first encountered during drilling.

19. Groundwater flow velocity and direction is a function of topography and the density and orientation of fractures. The potentiometric water level surface is generally parallel to the topographic slope which indicates a primary groundwater flow direction toward the west-southwest. A secondary component of groundwater flow is toward the northwest, parallel to the predominant fracture orientation. A packer test from relatively unfractured serpentinite screened by monitoring well E-3 indicates a hydraulic conductivity of $1x10^{-4}$ cm/sec, and an average linear groundwater flow velocity at 41.4 feet per year.

20. Background groundwater, as represented from monitoring well E-1, exhibits a mean total dissolved solids (TDS) concentration of 255 mg/l (40 sampling rounds). The landfill supply well has a TDS concentration of 280 mg/l based on one sampling analysis.

21. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal, agricultural, and industrial supply.

22. State Water Resources Control Board Order No. 97-03-DWQ (General Permit No. CAS000001), amended 17 April 1997, specifies waste discharge requirements for discharges of storm water associated with industrial activities, excluding construction activities, and requiring submission of a Notice Of Intent by industries to be covered under the permit. Waste disposal at landfills, including inert disposal facilities, is considered an industrial activity requiring submission of a Notice Of Intent for coverage under the general permit if storm water is to be discharged off-site. The Discharger has submitted a Notice Of Intent and received a permit.

WASTE AND SITE CLASSIFICATION

23. The Discharger disposes of putresible and nonputresible municipal solid wastes. These wastes are classified as 'nonhazardous solid waste' or 'inert waste' using the criteria set forth in Title 27 for a Class III landfill.

24. The site characteristics where the waste management unit is located (see Finding Nos. 8, 18, and 19) do not meet the siting criteria for a new Class III landfill contained in §20260(a) and (b)(1) of Title 27. As such, the site is not suitable for operating new waste management units or lateral expansions of existing waste management units for the discharge and containment of Class III wastes as described in Finding No. 23 without the construction of additional waste containment features in accordance with §20260(b)(2) of Title 27 and State Water Resources Control Board Resolution No. 93-62.

GROUNDWATER MONITORING

25. The Discharger is required to monitor the groundwater and vadose zone in accordance with Title 27.

26. The groundwater detection monitoring system consists of five wells (E-1, E-2, E-3, E-4, and E-5), as shown in Attachment B. These monitoring wells range in total depth from 41 to 81 feet below ground surface.

27. The Discharger's existing groundwater detection monitoring program for this Waste Management Unit satisfies the requirements contained in Title 27.

28. Because the soils beneath the landfill are thin and overlie fractured bedrock, monitoring of the vadose zone using conventional techniques such as suction lysimeters is infeasible. In lieu of lysimeters, the Discharger installed a series of gas monitoring probes for perimeter monitoring of the waste management unit. These monitoring devices are suitable for early

detection of a landfill release of volatile organic constituents migrating through the vadose zone in a vapor phase.

29. The Discharger installed a retrofitted leachate collection and removal system (LCRS) to control leachate from the unlined landfill. The retrofitted LCRS consists of a central collection drain to convey leachate to a 10,000-gallon temporary storage tank. Leachate from the storage tank is transferred by septic tank pumping trucks to the Mariposa County Public Utility District (MPUD) sewage treatment system. The central collection drain consists of five 6-inch diameter perforated collection pipes (T-1, T-2, T-3, T-4 and T-5) connected to a 6-inch diameter solid conveyance line that runs parallel to and within the southern intermittent drainage. In addition, a toe drain, consisting of a similar configuration, was installed near the toe of the southeastern slope of Module 1. The toe drain was originally connected to the central collection conveyance line. It was discovered that the toe drain collection system was discharging an inordinate volume of spring water that was not impacted by the landfill. Upon verbal approval by Sacramento Regional Board staff in January 1992, the toe drain was disconnected from the central conveyance line and allowed to discharge freely into the intermittent drainage. The toe drain precludes the spring runoff from seeping into the wastes and generating true leachate.

GROUNDWATER DEGRADATION

30. The Solid Waste Water Quality Assessment Test (SWAT) report for the Mariposa County Landfill concluded that volatile organic chemicals (VOCs) and total dissolved solids (TDS) have migrated into groundwater downgradient from the landfill but at levels below hazardous concentrations as defined in Title 22, CCR, Section 66699.

31. The VOCs detected in downgradient monitoring wells include chlorobenzene, chloroethane, 1,4-dichlorobenzene, 1,1-dichloroethane, cis-1,2-dichloroethylene, dichlorofluoromethane, and 1,1,1-trichloroethane. These constituents have typically been detected sporadically and at concentrations below Maximum Contaminant Levels. TDS in downgradient monitoring wells has been detected at 590 to 1,500 mg/l. Leakage from the landfill has probably impaired the potential drinking water beneficial use at the Bardini industrial supply well, which exhibits TDS concentrations between 590 and 858 mg/l and concentrations of 1,4-dichlorobenzene, dichlorodifluoromethane, 1,1-dichloroethane, cis-1,2-dichloroethylene, and trichlorotrifluoroethane below Maximum Contaminant Levels.

32. The Discharger has implemented an evaluation monitoring program to determine compliance with established water quality protection standards, as required by Monitoring and Reporting Program No. 91-018. The evaluation monitoring program was to be implemented in three phases, with summary reports and additional phase workplans

submitted annually, in accordance with a schedule as listed in Provision C.17.d of Order No. 91-018. The Phase 3 evaluation monitoring workplan was submitted in March 1995. However, the Phase 3 evaluation monitoring report has not been submitted to date. Completion of the evaluation monitoring program and implementation of a feasibility study for corrective action will be addressed in a Cleanup and Abatement order.

CONSTRUCTION AND ENGINEERED ALTERNATIVE

33. On 17 June 1993, the State Water Resources Control Board adopted Resolution No. 93-62 implementing a State Policy for the construction, monitoring, and operation of municipal solid waste landfills that is consistent with the federal municipal solid waste regulations promulgated under Title 40, Code of Federal Regulations, Part 258 (Subtitle D).

34. Resolution No. 93-62 requires the construction of composite liner systems at municipal solid waste landfills that receive wastes after 9 October 1993. The prescriptive standard for a composite liner system consists of a minimum 40 mil thick (60 mil for HDPE) upper synthetic flexible membrane component and lower soil component of compacted clay a minimum of two feet thick with a hydraulic conductivity not to exceed 1×10^{-7} cm/sec.

35. Resolution No. 93-62 also allows the Board to consider the approval of engineered alternatives to the prescriptive standard. Section III.A.b. of Resolution No. 93-62 requires that the engineered alternative be of a composite design similar to the prescriptive standard.

36. Section 20080(b) of Title 27 allows the Board to consider the approval of an engineered alternative to the prescriptive standard. In order to approve an engineered alternative in accordance with §20080(c)(1) and (2), the Discharger must demonstrate that the prescriptive design is unreasonably and unnecessarily burdensome and will cost substantially more than an alternative which will meet the criteria contained in §20080(b), or would be impractical and would not promote attainment of applicable performance standards. The Discharger must also demonstrate that the proposed engineered alternative is consistent with the performance goal addressed by the particular prescriptive standard, and provides protection against water quality impairment equivalent to the prescriptive standard in accordance with §20080(b)(2) of Title 27.

37. Section 13360(a)(1) of the California Water Code allows the Board to specify the design, type of construction, and/or particular manner in which compliance must be met in waste discharge requirements or orders for the discharge of waste at municipal solid waste disposal facilities.

38. The Discharger does not intend to construct a lateral expansion of the landfill at this time.

CEQA CONSIDERATIONS

39. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code §21000, et seq., and the CEQA guidelines, in accordance with Title 14 CCR, §15301.

OTHER CONSIDERATIONS

40. On 9 October 1991, the United States Environmental Protection Agency (USEPA) promulgated regulations (Title 40, Code of Federal Regulations, Parts 257 and 258, "federal municipal solid waste [MSW] regulations" or "Subtitle D") that apply, in California, to dischargers who own or operate Class II or Class III landfill units at which municipal solid waste is discharged. The majority of the federal MSW regulations became effective on the "Federal Deadline", which was on 9 October 1993. The USEPA has deemed the State of California to be an approved state, meaning that compliance with the applicable state regulations constitutes compliance with the corresponding portions of the federal Subtitle D regulations. These requirements implement the appropriate state regulations in lieu of Subtitle D. The Discharger must comply with all applicable provisions of Subtitle D that are not implemented through compliance with this Order or Title 27.

41. These requirements implement the prescriptive standard and performance goals of Title 27, California Code of Regulations, §20005 et seq. (Title 27).

42. These requirements implement State Water Resources Control Board Resolution No. 93-62, Policy for Regulation of Discharges of Municipal Solid Waste, which implement the federal Subtitle D regulations.

43. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of this site for the discharges of waste to land stated herein.

44. The Board has notified the Discharger and interested agencies and persons of its intention to update the waste discharge requirements for this facility.

45. In a public hearing, the Board heard and considered all comments pertaining to this facility and discharge.

IT IS HEREBY ORDERED that Order No. 91-018 is rescinded, and Attachment 1 of Order No. 93-200 is amended to delete the Mariposa County Landfill, which is on line No. 67, and that the County of Mariposa, its agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The discharge of 'hazardous waste' or 'designated waste' at this facility is prohibited. For the purposes of this Order, the term 'hazardous waste' is as defined in Title 23 California Code of Regulations, Section 2510 et seq., and 'designated waste' is as defined in Title 27.

2. The discharge of wastes outside of a waste management unit or portions of a waste management unit specifically designed for their containment is prohibited.

3. The discharge of solid waste, liquid waste, leachate, or waste constituents to surface waters, ponded water, surface water drainage courses, or groundwater is prohibited.

4. The discharge of liquid or semi-solid waste (i.e., waste containing less than 50 percent solids) is prohibited.

5. The discharge of solid waste containing free liquid or moisture in excess of its moisture holding capacity is prohibited.

6. The discharge of waste within 100 feet of surface waters is prohibited.

7. The discharge shall not cause the pollution or degradation of groundwater via the release of waste constituents in either liquid or gaseous phase.

8. The discharge of wastes shall not cause the pollution or degradation of any water supply.

9. The discharge of wastes which have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the waste management unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products, which, in turn:

   a. require a higher level of containment than provided by the unit; or

   b. are 'restricted hazardous wastes'; or

c. impair the integrity of containment structures;

is prohibited.

10. The discharge shall not cause any increase in the concentration of waste constituents in soil or other geologic materials outside of the waste management unit if such waste constituents could migrate to waters of the State and cause a condition of degradation, pollution, or nuisance.

11. The discharge of waste to a waste management unit after it is closed is prohibited.

B. DISCHARGE SPECIFICATIONS

1. Wastes shall only be discharged to that portion of an existing waste management unit that was permitted and/or received wastes prior to the federal deadline of 9 October 1993.

2. A minimum separation of 5 feet shall be maintained between the base of the wastes and the highest anticipated elevation of underlying groundwater, including the capillary fringe.

3. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control, construction, and, after closure, to the minimum amount necessary to irrigate cover vegetation or for other uses approved by the Executive Officer.

4. Collected landfill leachate shall be discharged to an appropriate waste management unit in accordance with Title 27 and in a manner consistent with the disposal of designated waste, or discharged on-site to a waste management unit that has a composite liner and a leachate collection and removal system.

5. Collected gas condensate from landfill gas control systems shall be discharged to an appropriate waste management unit in accordance with Title 27 and in a manner consistent with the disposal of designated waste, or discharged on-site to a waste management unit that has a composite liner and a leachate collection and removal system.

6. Neither the treatment nor the discharge of wastes shall cause a pollution or nuisance as defined by the California Water Code, §13050.

7. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order.

C. FACILITY SPECIFICATIONS

1. Waste management units and containment structures shall be designed and constructed to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping as a result of a 100-year, 24-hour precipitation event.

2. Precipitation and drainage control systems shall be designed, constructed, and maintained to accommodate the anticipated volume of precipitation and peak flows from surface runoff under the 100-year, 24-hour precipitation conditions.

3. Cover materials shall be graded to divert precipitation from the waste management unit, to prevent the ponding of surface water over wastes, and to resist erosion as a result of a 100-year, 24-hour precipitation event.

4. Waste management units or portions of waste management units shall be designed, constructed, and operated in compliance with precipitation and flood conditions contained in the Standard Provisions and Reporting Requirements referenced in Provision F.5 below.

5. All drainage control systems shall be designed and constructed to prevent the ponding of water above wastes.

6. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes.

7. Areas with slopes greater than ten percent, surface drainage courses, and areas subject to erosion by wind or water shall be designed and constructed to prevent such erosion.

8. An earthen cover shall be maintained over all but the active disposal area of the waste management unit. This area shall be properly graded and drained to prevent ponding and infiltration. The cover over the waste management unit shall be approved by the California Integrated Waste Management Board in accordance with §20680 of Title 27. Any alternative daily cover material shall be approved by the Executive Officer to ensure that it will be protective of water quality.

9. Annually, no later than **30 September** and **within 7 days** following a major storm event, all precipitation and drainage control systems shall be inspected. By **31 October** of each year, or **within 30 days** of a major storm event, any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the facility and to prevent surface drainage from contacting or percolating through wastes.

10. By **15 November** of each year, or **within 45 days** of a major storm event, the Discharger shall submit a report to the Board describing the results of the inspection(s) and the measures taken to maintain the precipitation and drainage control systems.

11. The Discharger shall immediately notify the Board of any flooding, unpermitted offsite discharge, equipment failure, slope failure, or other change in site conditions that could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.

D. DETECTION MONITORING SPECIFICATIONS

1. The Discharger shall comply with the detection monitoring provisions Title 27 for groundwater, surface water, and the unsaturated zone, and in accordance with Monitoring and Reporting Program No. 5-00-090.

2. The Water Quality Protection Standard, as defined in §20390 of Title 27, shall consist of constituents of concern, their concentration limits, the point of compliance, and all water quality monitoring points. Constituents of concern shall include all waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the landfill. Concentration limits shall consist of the background concentrations of each constituent of concern or concentrations greater than background, pursuant to §20400 of Title 27.

3. The Discharger shall comply with the Water Quality Protection Standard specified in Monitoring and Reporting Program No. 5-00-090 and the Standard Provisions and Reporting Requirements, dated August 1997, which are attached to and made part of this order.

4. The Water Quality Protection Standard for organic compounds which are not naturally occurring shall be taken as the detection limit of the analytical method used (i.e., U.S.E.P.A. Methods 8260 and 8270). The presence of non-naturally

occurring organic compounds in samples from detection monitoring wells is evidence of a release from the waste management unit.

5. The concentrations of the constituents of concern in waters passing the Point of Compliance shall not exceed the concentration limits established pursuant to Monitoring and Reporting Program No. 5-00-090.

6. For each monitoring event, the Discharger shall determine whether the landfill is in compliance with the Water Quality Protection Standard using procedures specified in Monitoring and Reporting Program No. 5-00-090 and §20415(e) of Title 27.

7. Methane and other landfill gases shall be adequately vented, removed from the waste management unit, or otherwise controlled to prevent the danger of explosion, adverse health effects, nuisance conditions, or the impairment of the beneficial uses of surface water or groundwater due to migration through the vadose (unsaturated) zone.

E. PROVISIONS

1. The Discharger shall maintain legible records of the volume and type of each waste discharged at each waste management unit or portion of a waste management unit, and the manner and location of the discharge. Such records shall be maintained at the facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be properly stored for future reference.

2. The Discharger shall maintain a copy of this order at the facility and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel upon request.

3. The Discharger shall comply with all applicable provisions of Title 27 that are not specifically referred to in this Order.

4. The Discharger shall comply with Monitoring and Reporting Program No. 5-00-090, which is incorporated into and made part of this Order. This compliance includes, but is not limited to, maintenance of waste containment facilities, precipitation and drainage controls, the groundwater monitoring system, leachate from the waste management unit(s), the vadose zone and surface water

monitoring systems, throughout the active life of the waste management unit and the post-closure maintenance period.

5. A violation of any of the applicable portions of the Standard Provisions and Reporting Requirements or the Monitoring and Reporting Program is a violation of these waste discharge requirements.

6. The Discharger or persons employed by the Discharger shall comply with all notice and reporting requirements of the State Department of Water Resources with regard to the construction, alteration, destruction, or abandonment of all monitoring wells used for compliance with this Order as required by §13750 through §13755 of the California Water Code.

7. The Discharger shall have the continuing responsibility to assure the protection of the beneficial uses of ground and surface waters from gases and leachate generated by discharged waste during the active life, closure and post-closure maintenance period of the waste management unit(s) and during the subsequent use of the property for other purposes.

8. In the event of any change in control or ownership of the land or waste discharge facilities described herein, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

   To assume operation under this Order, the succeeding owner or operator must apply in writing to the Board requesting transfer of the Order within 14 days of assuming ownership or operation of this facility. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Board, and a statement. The statement shall comply with the signatory requirements contained in Reporting Requirements No. 5 of the Standard Provisions and Reporting Requirements and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved by the Board.

9. The Discharger shall notify the Board in writing of any proposed change in ownership or responsibility for construction or operation of the waste management unit. The Discharger shall also notify the Board of a material change in the character, location or volume of the waste discharge and of any proposed expansions or closure plans. This notification shall be given **90 days** prior to the

effective date of the change and shall be accompanied by an amended Report of Waste Discharge and any technical documents that are needed to demonstrate continued compliance with these waste discharge requirements.

10. Partial or final closure of an existing classified waste management unit shall be in compliance with the applicable provisions of Title 27. Classified waste management units or portions of waste management units shall be closed in accordance with the approved closure and post-closure maintenance plan and closure waste discharge requirements adopted by the Board. The Discharger shall notify the Board in writing of the waste management unit(s) or portion of waste management unit(s) to be closed at least **180 days** prior to the intended beginning of any partial or final closure activities. Closure shall not proceed in the absence of closure waste discharge requirements.

11. The Discharger shall, by **30 April of each year**, submit for approval by the Executive Officer, plans with detailed cost estimates and a demonstration of assurances of financial responsibility for initiating and completing corrective action for all known and reasonably foreseeable releases from the waste management unit. The Discharger shall provide the assurances of financial responsibility to the California Integrated Waste Management Board as required by Title 27 CCR, Division 2, Subdivision 1, Chapter 6. The assurances of financial responsibility shall provide that funds for corrective action shall be available to the Regional Board upon the issuance of any order under California Water Code, Division 7, Chapter 5. The Discharger shall adjust the cost annually to account for inflation and any changes in facility design, construction, or operation.

12. The Discharger shall, by **30 April of each year**, submit for approval by the Executive Officer, a demonstration of assurances of financial responsibility to ensure closure and post-closure maintenance of each waste management unit in accordance with its approved closure and post-closure maintenance plans. The Discharger shall provide the assurances of financial responsibility to the California Integrated Waste Management Board as required by Title 27 CCR, Division 2, Subdivision 1, Chapter 6. The assurances of financial responsibility shall provide that funds for closure and post-closure maintenance with respect to water quality shall be available to the Regional Board upon the issuance of any order under California Water Code, Division 7, Chapter 5. The Discharger shall adjust the cost annually to account for inflation and any changes in facility design, construction, or operation.

13. If a single mechanism of financial assurance is used for both corrective action and closure and post-closure maintenance, the financial assurance must be sufficient for both requirements.

14. The Board will review this Order periodically and will revise these waste discharge requirements when necessary.

I, GARY M. CARLTON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 28 April 2000.

GARY M. CARLTON, Executive Officer

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 5-00-090
FOR
THE COUNTY OF MARIPOSA
FOR
OPERATION
MARIPOSA COUNTY MUNICIPAL SOLID WASTE LANDFILL
MARIPOSA COUNTY

Compliance with this Monitoring and Reporting Program, with Title 27, California Code of Regulations, Section 20005, et seq. (hereafter Title 27), and with the Standard Provisions and Reporting Requirements, dated August 1997, is ordered by Waste Discharge Requirements Order No. 5-00-090.

Failure to comply with this Program, or with the Standard Provisions and Reporting Requirements, constitutes noncompliance with the Waste Discharge Requirements and with the California Water Code, which can result in the imposition of civil monetary liability.

A. REQUIRED MONITORING REPORTS

Report	Due
1. Groundwater Monitoring (Section D.1)	See Table I
2. Annual Monitoring Summary Report (Standard Provisions and Reporting Requirements)	Annually
3. Unsaturated Zone Monitoring (Section D.2)	See Table II
4. Leachate Monitoring (Section D.3)	See Table III
5. Surface Water Monitoring (Section D.4)	See Table IV
6. Facility Monitoring (Section D.5)	As necessary
7. Response to a Release (Standard Provisions and Reporting Requirements)	As necessary

B. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in the Standard Provisions and Reporting Requirements. Reports which do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge

requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. Data shall also be submitted in a digital database format acceptable to the Executive Officer. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. A short discussion of the monitoring results, including notations of any water quality violations, shall precede the tabular summaries.

Field and laboratory tests shall be reported in each monitoring report. Monthly, quarterly, semiannual, and annual monitoring reports shall be submitted to Board staff in accordance with the following schedule for the calendar period in which samples were taken or observations made. The results of any monitoring done more frequently than required at the locations specified herein shall be reported to Board staff.

Sampling Frequency	Reporting Frequency	Reporting Periods End	Report Date Due
Monthly	Quarterly	Last Day of Month	**by Quarterly Schedule**
Quarterly	Quarterly	31 March	**30 April**
		30 June	**31 July**
		30 September	**31 October**
		31 December	**31 January**
Semi-Annually	Semi-Annually	30 June	**31 July**
		31 December	**31 January**
Annually	Annually	31 December	**31 January**

The annual report to be submitted to Board staff shall contain both tabular and graphical summaries of the monitoring data obtained during the previous twelve months, so as to show historical trends at each well. The report shall include a discussion of compliance with the waste discharge requirements and the water quality protection standard.

C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. Water Quality Protection Standard Report

a. For each waste management unit, the water quality protection standard consists of a list of constituents of concern and monitoring parameters, concentration limits for each constituent of concern, the point of compliance, and all monitoring points.

The Discharger shall submit a proposed water quality protection standard for review and approval in accordance with Detection Monitoring Specification D.3 and D.4 of Waste Discharge Requirements Order No. 5-00-090. The Executive Officer shall review the data and the proposed water quality protection standard in determining the final water quality protection standard for each monitored medium.

The report shall:

1) Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a waste management unit or portion of a waste management unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the waste management facility.

2) Include a map showing the monitoring points and background monitoring points for the surface, saturated, and unsaturated zones and showing the point of compliance in accordance with §20405 of Title 27.

3) Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the water quality protection standard.

b. Constituents of Concern

The constituents of concern are the waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the waste management unit. The constituents of concern for all waste management units at the facility are those listed in Table VI. The Discharger shall monitor all constituents of concern in Table VI every five years, or more frequently as required in accordance with a Corrective Action Program.

c. Monitoring Parameters

Monitoring parameters are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a waste management unit. The monitoring parameters for all waste management units are those listed in Tables I through V for the specified monitored medium.

d. Concentration Limits

The concentration limits for each constituent of concern are as follows:

1). for naturally occurring constituents of concern, the concentration limit shall be the calculated statistical concentration limit.

2). for anthropogenic (not naturally occurring) constituents, which have no natural and, therefore, no background values, the concentration limit (water quality protection standard) shall be the detection limit of the analytical method(s) used.

The Discharger shall use the statistical method approved by the Executive Officer and the groundwater quality data obtained from the detection monitoring program to revise the concentration limits annually. The Discharger shall submit the revised concentration limits to the Executive Officer for review and approval in the annual monitoring report.

e. Point of Compliance

The point of compliance for each waste management unit is the vertical surface located at the hydraulically downgradient limit of the waste management unit that extends through the uppermost aquifer underlying the unit.

f. Monitoring Points

All downgradient wells established for groundwater monitoring shall constitute the monitoring points for the groundwater quality protection standard. All approved monitoring wells, unsaturated zone monitoring devices, leachate, and surface water monitoring points shall be sampled and analyzed for monitoring parameters and constituents of concern as indicated and listed in Tables I through IV.

2. Compliance Period

The compliance period for each waste management unit shall be the number of years equal to the active life of the waste management unit plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program.

D. MONITORING

The Discharger shall comply with the detection monitoring provisions of Title 27 for groundwater, surface water, and the unsaturated zone, in accordance with Detection Monitoring Specification D.1 of Waste Discharger Requirements Order No. 5-00-090. All monitoring shall be conducted in accordance with a Sample Collection and Analysis Plan, which includes quality assurance/quality control standards, that is acceptable to the Executive Officer.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those which cannot be quantified and/or specifically identified. Metals shall be analyzed in accordance with the methods listed in Table VI.

The Discharger may use alternative analytical test methods, including new EPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program.

1. Groundwater

The Discharger shall install and operate a groundwater detection monitoring system that complies with the applicable provisions of §20415 and §20420 of Title 27 in accordance with a Detection Monitoring Plan approved by the Executive Officer. The Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan.

The Discharger shall determine groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional zone of saturation monitored pursuant to this Monitoring and Reporting Program, and report the results quarterly, including the times of highest and lowest elevations of the water levels in the wells.

Groundwater samples shall be collected from the point of compliance wells, background wells, and any additional wells added as part of the approved groundwater monitoring system. Samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in Table I. All monitoring parameters shall be graphed so as to show historical trends at each well. The monitoring parameters shall also be evaluated annually with regards to the cation/anion balance, and the results shall be graphically presented using a Stiff diagram or a Piper graph. Samples for the constituents of concern specified in Table I shall be collected and analyzed in accordance with the methods listed in Table VI every five years.

2. **Unsaturated Zone Monitoring**

Unsaturated zone samples shall be collected from the monitoring devices and background monitoring devices of the approved unsaturated zone monitoring system. Samples shall be collected and analyzed for the listed constituents in accordance with the methods and frequency specified in Table II. All monitoring parameters shall be graphed so as to show historical trends at each monitoring point. Samples for the constituents of concern specified in Table II shall be collected and analyzed in accordance with the methods listed in Table VI every five years.

Unsaturated zone monitoring reports shall be included with the corresponding semi-annual groundwater monitoring and shall include an evaluation of potential impacts of the facility on the unsaturated zone and compliance with the water quality protection standard.

3. **Leachate Monitoring**

The waste management unit leachate storage tank shall be inspected weekly for leachate generation. Upon detection of leachate in the previously dry leachate storage tank, leachate shall be sampled and analyzed for the constituents listed in Table III. Leachate monitoring shall be conducted as specified in Table III in accordance with the methods listed. The constituents of concern list shall include all constituents listed in Table VI. The quantity of leachate pumped from each sump shall be measured continuously and reported as Leachate Flow Rate (in gallons/day).

4. **Surface Water Monitoring**

The Discharger shall install and operate a surface water detection monitoring system where appropriate that complies with the applicable provisions of §20415 and §20420 of Title 27 and has been approved by the Executive Officer.

For all monitoring points and background monitoring points assigned to surface water detection monitoring, samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in Table IV. All surface water monitoring samples shall be collected and analyzed for the constituents of concern specified in Table IV every five years. All monitoring parameters shall be graphed so as to show historical trends at each sample location.

5. **Facility Monitoring**

a. **Facility Inspection**

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall

assess damage to the drainage control system, groundwater monitoring equipment (including wells, etc.), and shall include the Standard Observations defined in the Standard Provisions and Reporting Requirements (Definition 24). Any necessary construction, maintenance, or repairs shall be completed by **31 October**. By **15 November** of each year, the Discharger shall submit an annual report describing the results of the inspection and the repair measures implemented.

b. Storm Events

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage within 7 days following *major storm events*. Necessary repairs shall be completed within 30 days of the inspection. The Discharger shall report any damage and subsequent repairs within 45 days of completion of the repairs.

The Discharger shall implement the above monitoring program on the effective date of this Program.

Ordered by: _____
GARY M. CARLTON, Executive Officer

28 April 2000
(Date)

DEE

TABLE I

GROUNDWATER DETECTION MONITORING PROGRAM

Parameter	Units	Frequency
Field Parameters		
Groundwater Elevation	Ft. & hundredths, M.S.L.	Quarterly
Temperature	°C	Semi-annual
Specific Conductance	µmhos/cm	Semi-annual
pH	pH units	Semi-annual
Turbidity	Turbidity units	Semi-annual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semi-annual
Chloride	mg/L	Semi-annual
Carbonate	mg/L	Semi-annual
Bicarbonate	mg/L	Semi-annual
Nitrate - Nitrogen	mg/L	Semi-annual
Sulfate	mg/L	Semi-annual
Calcium	mg/L	Semi-annual
Magnesium	mg/L	Semi-annual
Potassium	mg/L	Semi-annual
Sodium	mg/L	Semi-annual
Volatile Organic Compounds (USEPA Method 8260, see Table V)	µg/L	Semi-annual
Constituents of Concern (see Table VI)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8150)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141)	µg/L	5 years

TABLE II

UNSATURATED ZONE DETECTION MONITORING PROGRAM

SOIL-PORE GAS

Parameter	Units	Frequency
Monitoring Parameters		
Volatile Organic Compounds (USEPA Method TO-14)	$\mu g/cm^3$	Semi-annual
Methane	%	Quarterly

TABLE III

LEACHATE DETECTION MONITORING PROGRAM

Parameter	Units	Frequency
Field Parameters		
Total Flow	Gallons	Monthly
Flow Rate	Gallons/Day	Monthly
Specific Conductance	µmhos/cm	Monthly
pH	pH units	Monthly
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Quarterly
Carbonate	mg/L	Quarterly
Bicarbonate Alkalinity	mg/L	Quarterly
Chloride	mg/L	Quarterly
Sulfate	mg/L	Quarterly
Nitrate - Nitrogen	mg/L	Quarterly
Volatile Organic Compounds (USEPA Method 8260, see Table V)	µg/L	Quarterly
Constituents of Concern (see Table VI)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8150)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141)	µg/L	5 years

TABLE IV

SURFACE WATER DETECTION MONITORING PROGRAM

Parameter	Units	Frequency
Field Parameters		
Temperature	°C	Semi-annual
Specific Conductance	µmhos/cm	Semi-annual
pH	pH units	Semi-annual
Turbidity	Turbidity units	Semi-annual
Monitoring Parameters		
Total Dissolved Solids (TDS)	mg/L	Semi-annual
Carbonate	mg/L	Semi-annual
Bicarbonate	mg/L	Semi-annual
Chloride	mg/L	Semi-annual
Nitrate - Nitrogen	mg/L	Semi-annual
Sulfate	mg/L	Semi-annual
Calcium	mg/L	Semi-annual
Magnesium	mg/L	Semi-annual
Potassium	mg/L	Semi-annual
Sodium	mg/L	Semi-annual
Volatile Organic Compounds (USEPA Method 8260, see Table V)	µg/L	Semi-annual
Constituents of Concern (see Table VI)		
Total Organic Carbon	mg/L	5 years
Inorganics (dissolved)	mg/L	5 years
Volatile Organic Compounds (USEPA Method 8260, extended list)	µg/L	5 years
Semi-Volatile Organic Compounds (USEPA Method 8270)	µg/L	5 years
Chlorophenoxy Herbicides (USEPA Method 8150)	µg/L	5 years
Organophosphorus Compounds (USEPA Method 8141)	µg/L	5 years

TABLE V

MONITORING PARAMETERS FOR DETECTION MONITORING

Surrogates for Metallic Constituents:

pH
Total Dissolved Solids
Specific Conductivity
Chloride
Sulfate
Nitrate nitrogen

Constituents included in VOC:

USEPA Method 8260

Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans-1,4-Dichloro-2-butene
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1,1 -Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Ethylbenzene
2-Hexanone (Methyl butyl ketone)
Methyl bromide (Bromomethene)
Methyl chloride (Chloromethane)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Methyl ethyl ketone (MEK: 2-Butanone)

TABLE V

MONITORING PARAMETERS FOR DETECTION MONITORING
(Continued)

Methyl iodide (Iodomethane)
4-Methyl-2-pentanone (Methyl isobutylketone)
Styrene
1,1,1,2-Tetrachloroethane
1,1.2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)
Toluene
1,1,1-Trichloethane (Methylchloroforrn)
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes

TABLE VI

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

Inorganics (dissolved):	USEPA Method
Aluminum	6010
Antimony	6010
Barium	6010
Beryllium	6010
Cadmium	6010
Chromium	6010
Cobalt	6010
Copper	6010
Silver	6010
Tin	6010
Vanadium	6010
Zinc	6010
Iron	6010
Manganese	6010
Arsenic	7061
Lead	7421
Mercury	7470
Nickel	7520
Selenium	7741
Thallium	7841
Cyanide	9010
Sulfide	9030

Volatile Organic Compounds:

USEPA Method 8260

Acetone
Acetonitrile (Methyl cyanide)
Acrolein
Acrylonitrile
Allyl chloride (3-Chloropropene)
Benzene
Bis(2-ethylhexyl) phthalate
Bromochloromethane (Chlorobromomethane)
Bromodichloromethane (Dibromochloromethane)
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride
Chloroform (Trichloromethane)
Chloroprene

TABLE VI

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS
(Continued)

Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dribromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans- 1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC 12)
1,1 -Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1, l-Dichloroethene; Vinylidene chloride)
cis- 1 ,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans- 1 ,2-Dichloroethylene (trans- 1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
1,3-Dichloropropane (Trimethylene dichloride)
2,2-Dichloropropane (Isopropylidene chloride)
1,1 -Dichloropropene
cis- 1,3-Dichloropropene
trans- 1 ,3-Dichloropropene
Ethylbenzene
Hexachlorobutadiene
2-Hexanone (Methyl butyl ketone)
Isobutyl alcohol
Isodrin
Methacrylonitrile
Methyl bromide (Bromomethane)
Methyl chloride (Chloromethane)
Methyl ethyl ketone (MEK; 2-Butanone)
Methyl iodide (Iodomethane)
Methyl methacrylate
4-Methyl-2-pentanone (Methyl isobutyl ketone)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Naphthalene
Propionitrile (Ethyl cyanide)
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)
Toluene 1,2,4-Trichlorobenzene
1,1,1 -Trichloroethane, Methylchloroform
1,1,2-Trichloroethane

TABLE VI

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS (Continued)

Trichloroethylene (Trichloroethene; TCE)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride (Chloroethene)
Xylene (total)

Semi-Volatile Organic Compounds:

USEPA Method 8270 - base, neutral, & acid extractables

Acenaphthene
Acenaphthylene
Acetophenone
2-Acetylaminofluorene (2-AAF)
Aldrin
4-Aminobiphenyl
Anthracene
Benzo[a]anthracene (Benzanthracene)
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
Benzyl alcohol
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (Lindane)
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl) ether (Dichloroethyl ether)
Bis(2-chloro-1-methyethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
4-Bromophenyl phenyl ether
Butyl benzyl phthalate (Benzyl butyl phthalate)
Chlordane
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol (4-Chloro-3-methylphenol)
2-Chloronaphthalene
2-Chlorophenol
4-Chlorophenyl phenyl ether
Chrysene
o-Cresol (2-methylphenol)
m-Cresol (3-methylphenol)

TABLE VI

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS (Continued)

p-Cresol (4-methylphenol)
4,4'-DDD
4,4'-DDE
4,4'-DDT
Diallate
Dibenz[a,h]anthracene
Dibenzofuran
Di-n-butyl phthalate
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1 ,4-Dichlorobenzene)
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Dieldrin
Diethyl phthalate
p-(Dimethylamino)azobenzene
7,12-Dimethylbenz[a]anthracene
3,3'-Dimethylbenzidine
2,4-Dimehtylphenol (m-Xylenol)
Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Ethyl methacrylate
Ethyl methanesulfonate
Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorobutadiene

TABLE VI

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS
(Continued)

Hexachlorocyclopentadiene
Hexachloroethane
Hexachloropropene
Indeno(1,2,3-c,d)pyrene
Isophorone
Isosafrole
Kepone
Methapyrilene
Methoxychlor
3-Methylcholanthrene
Methyl methanesulfonate
2-Methylnaphthalene
Naphthalene
1,4-Naphthoquinone
1-Naphthylamine
2-Naphthylamine
o-Nitroaniline (2-Nitroaniline)
m-Nitroaniline (3-Nitroaniline)
p-Nitroaniline (4-Nitroaniline)
Nitrobenzene
o-Nitrophenol (2-Nitrophenol)
p-Nitrophenol (4-Nitrophenol)
N-Nitrosodi-n-butylamine (Di-n-butylnitrosamine)
N-Nitrosodiethylamine (Diethylnitrosamine)
N-Nitrosodimethylamine (Dimethylnitrosamine)
N-Nitrosodiphenylamine (Diphenylnitrosamine)
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine)
N-Nitrosomethylethylamine (Methylethylnitrosamine)
N-Nitrosopiperidine
N-Nitrosospyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
p-Phenylenediamine
Polychlorinated biphenyls (PCBs; Aroclors)
Pronamide
Pyrene
Safrole

TABLE VI

CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS (Continued)

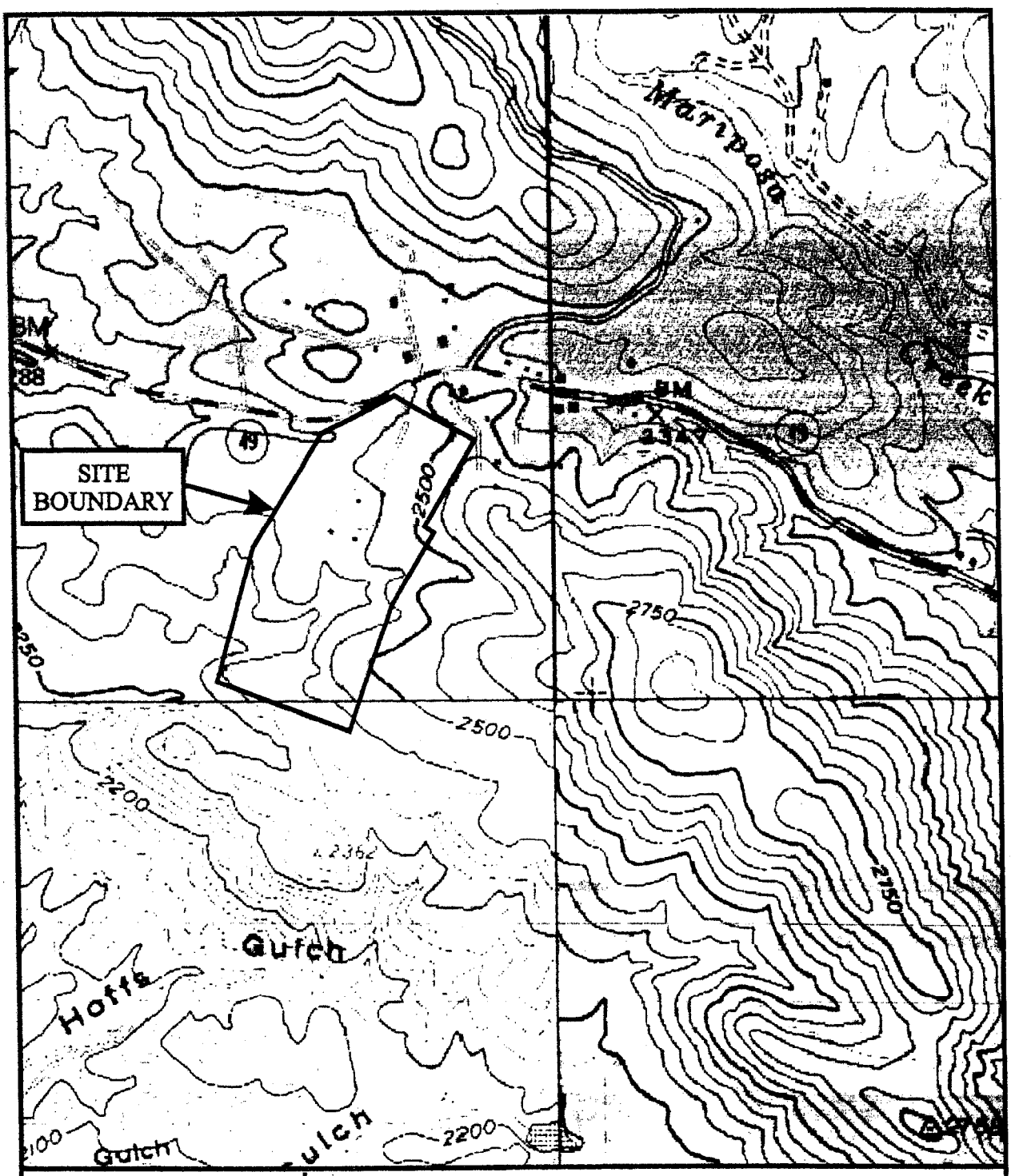
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
Toxaphene
1,2,4-Trichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
0,0,0-Triethyl phosphorothioate
sym-Trinitrobenzene

Chlorophenoxy Herbicides:

USEPA Method 8150
2,4-D (2,4-Dichlorophenoxyacetic acid)
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)

Organophosphorus Compounds:

USEPA Method 8141
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
Dimethoate
Disulfoton
Methyl parathion (Parathion methyl)
Parathion
Phorate



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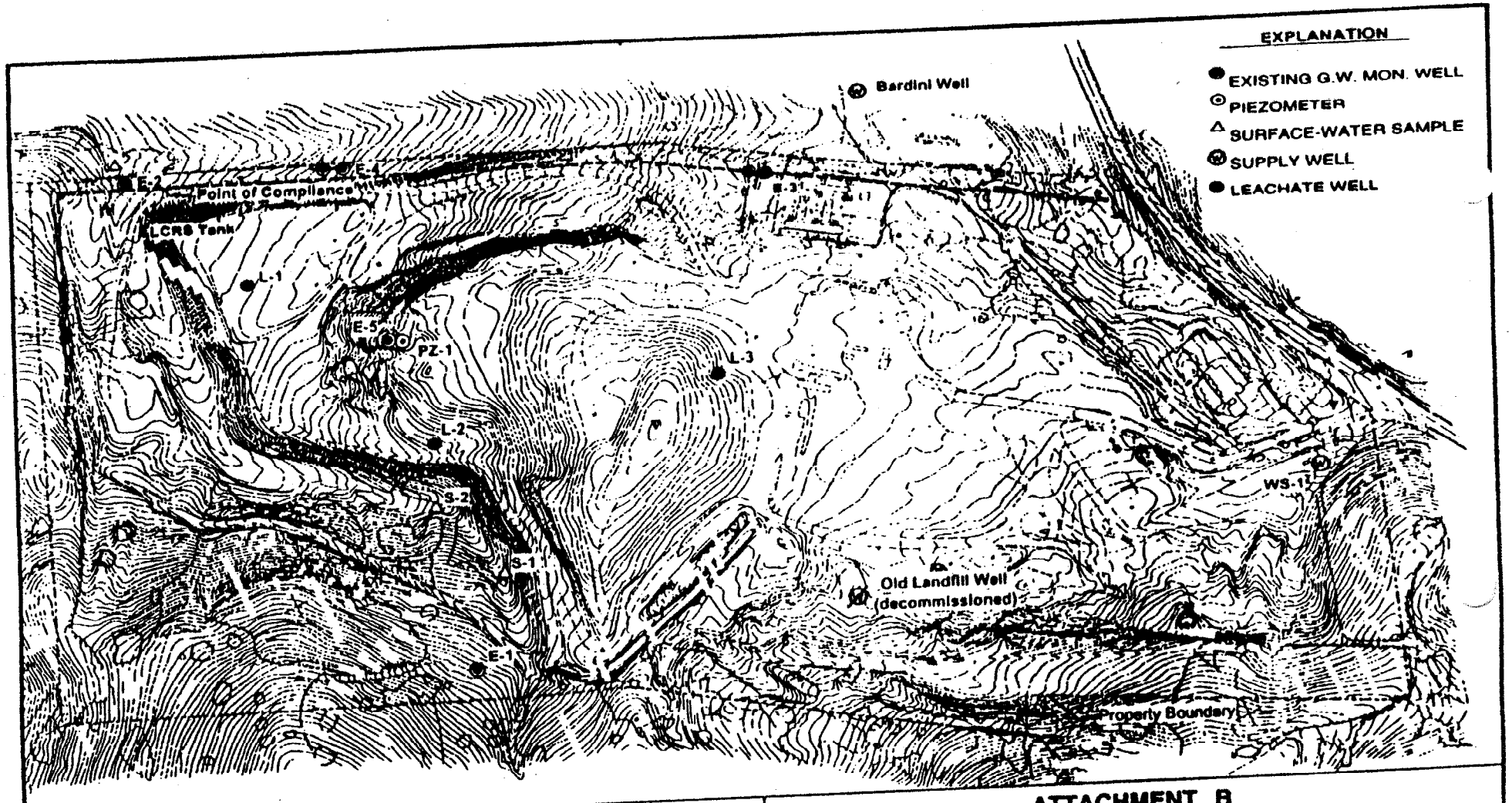
1" = 1,000' (Approximate)

ATTACHMENT A

ORDER NO. 5-00-090
COUNTY OF MARIPOSA
MARIPOSA COUNTY MUNICIPAL SOLID WASTE LANDFILL
MARIPOSA COUNTY

Bear Valley, Catheys Valley, Feliciana Mountain, and Mariposa, CA
U.S.G.S. 71/2 Min. Quadrangles



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APPROXIMATE SCALE: 1" = 250'

ATTACHMENT B
ORDER NO. 5-00-090
MARIPOSA COUNTY PUBLIC WORKS DEPARTMENT
CLASS III LANDFILL
MARIPOSA COUNTY

INFORMATION SHEET

ORDER NO. 5-00-090
COUNTY OF MARIPOSA
MARIPOSA COUNTY MUNICIPAL SOLID WASTE LANDFILL
MARIPOS COUNTY

The County of Mariposa owns and operates a municipal solid waste landfill approximately 2.5 miles northwest of the city of Mariposa. The facility contains one existing unlined waste management unit covering 40.3 acres. The facility receives approximately 80 cubic yards per day of municipal solid waste with an anticipated remaining capacity of 2,000,000 cubic yards. Remaining total site life is estimated at 65 years.

The facility is in a small canyon between northwest trending Mount Bullion Ridge and a smaller northwest trending ridge immediately south of the site. The site slopes moderately to the southwest with elevations ranging from 2,290 to 2,500 feet above mean sea level. The site consists of 25 to 50 percent bedrock outcrop and is underlain mainly by serpentinite. The serpentinite occurs as hard resistant blocky masses and highly sheared and fractured nonresistant masses. Soils include the Hannecke Series which are typically less than 4 feet thick and localized.

Surface drainage is toward two on-site intermittent drainages that are tributaries of Agua Fria Creek. Agua Fria Creek flows to Mariposa Creek, which enters Mariposa Reservoir 12 miles southwest of the site.

Groundwater flow is fracture controlled, locally confined, and first encountered at depths ranging from 21 to 65 feet below ground surface. Groundwater flow velocity and direction is a function of topography and the density and orientation of fractures. The potentiometric water level surface is generally parallel to the topographic slope, which indicates a primary groundwater flow direction toward the west-southwest. A secondary component of groundwater flow is toward the northwest, parallel to the predominant fracture orientation. The quality of underlying groundwater is within state drinking water quality standards with an average total dissolved solids concentration of 255 mg/l.

Groundwater quality is monitored by five wells including one background well. Volatile organic compounds (VOCs) were first detected in groundwater when detection monitoring wells were installed and continue to be detected sporadically and at concentrations below primary water quality standards. In addition, elevated levels of total dissolved solids (TDS) have been detected in downgradient monitoring wells. The Discharger has not completed an Evaluation Monitoring Program or implemented a feasibility study for corrective action in accordance with Title 27. The required submittals will be addressed in a Cleanup and Abatement order to be issued in the near future.

The action to update waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) in accordance with 14 CCR, Section 15301.

DEE:04/28/00